



W8KEA

MARC



MIDLAND AMATEUR RADIO CLUB
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www.w8kea.org

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	Pat Mullet KC8RTW	(989) 828-6657

LIFE MEMBERS

Larry K8SQB (SK), Don W8WOJ, Lee KC8ITI, Dennis N8ERF, Larry N8CGP, Denny WD8BPT

Midland County Public Service Net, Thursdays at 9 PM

W8KEA Repeater — 147.000 MHz+ PL 103.5 • W8QN Repeater — 443.325 MHz+ PL 103.5
W8KEA Digipeater — 145.090 MHz

Next ARES®/RACES Meeting — Thursday April 4, 2013, 6:00 PM

Next CLUB Meeting — Thursday April 4, 2013, 7:30 PM

Salvation Army Building 330 Waldo Rd.

Talk-in 147.000+

April 2013

Static Discharge

Kevin Martin, KD8QAM

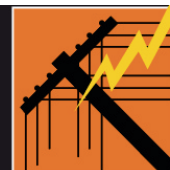
The weather hasn't been very cooperative, and the yard is a terrible mud pit. I have been confined to the garage and the spring projects. I haven't made many contacts over the last month, but I am planning to have a new antenna up next month. I hope that will help keep me on the air. I am having great luck at burning my fingers again and not a lot with the projects. I hope you all are able to get your winter projects finished in time for spring.

The board members for the Midland High School Amateur Radio Club have been hard at it, trying to get together a curriculum for the students in the fall. There are a ton of great ideas being shared by the group for the new club.

The Michigan QSO party is on April 20th, and the M.S. Walk is on April 27th at Central Middle School. I hope everyone can make it out to the M.S. Walk.

Kevin KD8QAM

**When all else fails...
...Amateur Radio!**



MARC Minutes

Dorie French, N8WTQ

The meeting was called to order at 7:40 by KD8QAM with 30 members and guests present.

- KC8ITI brought some of the inventory for those interested in purchasing it.

- The treasurer's report was given by W8QN. He said there would be an *FLDigi* exercise on 4/13/13 from 9 to

11 a.m. For information call or email him. Information about *FLDigi* can be found on the internet or *QST* technical articles.

- The MS walk is scheduled for 4/27 from 8:30-noon at Central Intermediate School. Those interested in helping with the event should contact KB8UIH.

- The Great Lakes Bay Area Marathon will be on 5/18 from 6:30 a.m. to 3 p.m. It will begin and end at Dow Diamond. Anyone interested in helping should contact KB8UIH.

- Information on the Dow Run will be available at the April meeting.

- A VE session will be held 3/23 at the Salvation Army building. Registration at 8:30 am and testing at 9:00 am.

- KC8ITI said the general class has a couple of sessions left and a new tech class will begin in April.

- N8ERF and WD8BPT reported on the status of the Midland High School Amateur Radio Club. They are working on the curriculum and activities now. They said the antenna, tower and cabling

are the top priorities. N8ERF has applied to several agencies for grant money and WD8BPT has some volunteer equipment and manpower lined up. Those who want to help with the kids need a background check.

- KCBRTW brought up that we could use a program to coordinate all the Field Day logging information. We have the rights and just need to set up a network (IT Coordinator). KCBGRQ said he can do that.

- Net Control for

March 14-KC8GRQ

March 21-KD8QAM

March 28-KC8ITI

- A Motion to adjourn was made by KC8ITI and seconded by KD8JQY.

Meeting was adjourned at 8:32 p.m.

Respectfully submitted,
Dorie French, N8WTQ
MARC Secretary

MARC MEETINGS

Mark Rodgers, KC8GRQ, is in charge of special events and topics for the MARC monthly meetings. If you have any agenda items, or topics for the meetings, please contact Mark at (517) 672-1060, or via e-mail: kc8grq@yahoo.com

COMMUNICATIONS

Pat Mullet, KC8RTW, is in charge of communications and publicity for the club. If you have any questions or ideas regarding these areas, please contact Pat at kc8rtw@arrrl.net

EXAMINATION SCHEDULE

Saginaw - All future VE testing will be done on an appointment basis only.

Corunna - Contact Thomas Carpenter (517) 579-0599 ki8as@charter.net.

Bay City - All future VE testing will be done on an appointment basis only.

Isabella/Clare Counties - Contact Gus Glass, K8GUS at k8gus@arrrl.net

With all examinations, your original license, a copy of that license, a second photo identification (drivers license, etc.) and a check or money order for \$15.00 made out to "ARRL/VEC" are required.

The address listed below gives testing sessions scheduled for Michigan. <http://www.arrrl.org/arrrlvec/exam-search.phtml?State=MI>

SUBMISSIONS FOR NEWSLETTER

Contact Pat Mullet, KC8RTW at kc8rtw@arrrl.net if you want to submit anything for the newsletter.

I need your items by the 15th of the month. Anything received after that may not make it into the newsletter for that month.

If you prefer to download the MARC newsletter from our web site, or have trouble with delivery via USPS, contact Keith, KB8SOE, at kb8soe@arrrl.net.

MEDIA HITS!

Have you seen or heard mention of the Midland Amateur Radio Club in the news or in the paper? If so, please forward it, or mention of it to either Pat, KC8RTW (kc8rtw@arrrl.net) or Kevin (cherryredirocz@sbcglobal.net)

My Two Cents

Well, spring's just around the corner, and I guess you could say that contest season is already here—at least, I've been having fun playing around the last few weekends in contests.

The first weekend of March was one of the major contests, the ARRL International DX contest. I trolled the 15, 20 and 40-meter bands and made 43 contacts, 12 of them new countries.

The second weekend of March featured both the Idaho and Wisconsin QSO parties, which I used to improve both my state count on multiple bands and my county count.

This weekend has both the Oklahoma and Virginia QSO parties, and the weekend of the 23rd highlights the Alaska QSO party.

All of these are prime opportunities for hams working on their Worked All States award to rack up contacts on multiple bands, as well as serving as a training ground for Field Day. It also allows you to work out the bugs with your system and learn how to work with or through them. In my case, I've found

Pat Mullet, KC8RTW

that my Icom IC-718 hf rig is a fine general-purpose radio, its reception is rather broad for the crowded spectrum during contests, where strong near-by stations can overwhelm attempts to work weaker stations you need for that extra multiplier.

Another good point is that if you play in the contests, submitting a log is not required. You can work stations for fun and to build you state count, and the other station can still claim your contact for contest points—a win-win situation for all.

The moral of the story is that no ham, from neophyte to the most experienced, should shy away from contest weekends. You don't need to be one of the big guns to participate, just get out there and have fun.

Hope to hear you on the air.

73, Pat, KC8RTW

ARES®/RACES John Wolters, W8QN

With all the confusion about the use of the Salvation Army Building for the March ARES®/RACES meeting and my continuing illness, the meeting was short and conducted at the local McDonalds. We discussed a little about *FLDigi* and a potential work session and exercise in April. What I failed to realize was that the first week of April is Spring Break for the School District and that I will be out for part of it. As a result, The April ARES®/RACES meeting and April exercise are canceled.

I hope to get things back on track in May. Sorry for any confusion.

Dow Run

The Dow Run occurs on Saturday May 18th. I will be contacting each of you to solicit your support and participation. The commitment is from approximately 7:15 am on Saturday until Noon. All that is needed is your willingness to work and a VHF radio if you have one. If not please let me know. There are a limited number of club radios available for active use.

John Wolters – W8QN

Other Public Service Activities in Dist 3

Here are other public service activities

that are going on in Dist 3. Contact me if you have questions.

Your participation is appreciated.

Alcona County

May 11 - Clean up Event Fairgrounds
7:30 AM to 2:00 PM
2 shifts Need 6 operators

Last weekend in July - Canoe Races will need 2 or 3 operators

Genesee County

July ?? - Atwood Races
Aug. 24 - Crim Races

Iosco County

Last Full Weekend in July - Ausable River Canoe Marathon

Lapeer County

June 8 - Big fish Triathlon
July 14 - Otter Lake Triathlon

Oscoda County

Last weekend in June - Nor'easter Festival
7:00 AM TO 7:00 PM All operators that are willing to work

Saginaw County

May 11 - MS Walk at 8:30 AM
May 19 - Run for Windy 8:00 AM.

2013 MS Walk Chris Rose, KB8UIH

Hello all,

Please consider putting Saturday April 27, 2013 on your Public Service Calendar. The event will be at the same Bat-place, at the same Bat-time, and we will once again be serving a worthy cause. This is a low-impact event and a great opportunity to get your feet wet in public service operations and to get used to working on a directed net.

The specific details are:

DATE: Saturday, April 27, 2013

TIME: 8:45-Noonish

PLACE: Central Middle School on Rodd Street between East Reardon and

East Collins Streets. Coordinates according to Google Maps are N43.619068, W-84.234070.

When you get to the school, please check in and sign-in with the MS official(s). Let them know you are there and then check in with me on site.

Barring a conflict in scheduling, the SATERN Communications vehicle is set to be the Net Control Location, and we will be using the Midland 147.000MHz repeater for the net.

Thank you very much in advance,

Chris, KB8UIH

Phone 989-832-7179

Amateur Radio is a Contact Sport!

Upcoming Events

4/20-21	Mi QSO Party
4/27	MS Walk
5/18	Dow Run
5/19	GLB Marathon
6/22-23	Field Day

Michigan Hamfests

3/16	Marshall
3/30	Lowell
4/20	Highland
5/4	Cadillac
6/1	Hudsonville
6/2	Chelsea
6/15	Midland*
6/16	Monroe
7/27	Lansing
8/3	Escanaba
10/5	Petoskey
10/6	Madison Heights
10/19	Muskegon
10/20	Kalamazoo

* Denotes date based on 2012 event

Area Nets

SVARA; Mn, 147.24 MHz, 2100 ET
Gladwin; Tu, 147.18 MHz, 2000 ET
BAARC; Tu, 145.31 MHz, 2100 ET
Isabella Co EOC 146.72 Mhz, 1900 ET
Canadian Lks, Wed, 146.8, 2100 ET
Edmore, Th, 146.8, 2000 ET
MARC; Th, 147.00 MHz, 2100 ET
District 3 ARPSC; Su, 145.31 MHz, 1830 ET
Mi VHF Trffc Net; MWF, 145.15 MHz, 0900 ET
TMMTN; Mon-Sat, 147.30 MHz, 2130 ET
MACS; Sun-Sat, 3953 kHz 1100 ET
MIARPSC; Su, 3932 kHz, 17:00 ET
UPN; Sun-Sat, 3920 kHz, 17:00 ET
MITN; Sun-Sat, 3952 kHz, 1800 ET
QMN; Sun-Fri, 3563 kHz, 1830 & 2200 ET
WSSBN, 3932 kHz, 1900 ET
UP-ARES; Fr, 3932 kHz, 1930 ET
GLETN; Sun-Sat, 3932 kHz, 2030 ET
SEMTN; Sun-Sat, 145.33, 2215 ET
MIDTN - 1900 local Tu, Th, Sat 3.583
+waterfall, Oivia 8/500

MARC MERCHANDISE

T-Shirt	S- XL	\$10
	2X - 3X	\$12
Long-Sleeve Tee	S- XL	\$12
	2X - 3X	\$15
Crew Sweatshirt	S- XL	\$18
	2X - 3X	\$20
Hoodie	S- XL	\$24
	2X - 3X	\$26
Zipper Hoodie	S- 3X	\$30
Winter Coat	S- XL	\$42
	2X - 3X	\$45
Spring Jacket	S- XL	\$32
	2X - 3X	\$35
Hat		\$10

All garments are royal blue with white print and embroidered name and number. Extended sizes available.

Please call Bill Lee at B&C Sportswear with questions @ (989) 839-4537.

Volunteers Needed for Great Lakes Bay Marathon

Hard on the heels of the Dow Run on Saturday, May 18th is the Great Lakes Bay Marathon for May 19th. Last year's route went through three counties, but this year it is predominately in Midland County. Area hams will be providing communications support for the event—Yeah, I know its Dayton weekend. Last year it drew prominent international runners, so this could be a chance for amateur radio to shine. Therefore, I am asking for support from whoever may be available to assist this event.

I want APRS trackers if possible.

Last year the Michigan State Police provided lead and tail vehicles for the two different runs, the full and half marathons. We attempted to put trackers in lead and tail of the larger run. We got one to work properly. From that experience, we know what did and didn't work. Depending on what is available this year, we will plan again to track the race in real time.

The Start/Stop line is at Dow Diamond in Midland; there is major urban renewal going on right across the street from the stadium—look out for it. The projected course is east then south of

Midland toward Bay County, then South toward Saginaw County, circling back to the West, then returning North and East to the stadium.

The time frame for the event is 6:30 AM through 2:00 PM, so any time is open for your involvement, for all day or half day.

Thank you in advance for your consideration in assisting with this event.

Chris, KB8UIH
home phone 989 832 7179
email kb8uih at charter dot net

Technician Level License Class Forming

The Midland Amateur Radio Club will be offering a Technician Level licensing class this spring. All the information needed to pass the Tech test will be covered in this course, along with hands-on demos and real-life examples provided by the instructors. The required textbook, The ARRL Ham Radio License Manual Second Edition, which normally costs \$29.95, will be available at a

discount of \$23.00 through the club. An exam will be scheduled after the conclusion of the course. The course will be held at The Salvation Army Building, 330 Waldo Rd. Classes will begin at 7:00 pm and run until about 9:00 pm. The course will run six weeks beginning Monday, April 1st, 2013 and will meet on Mondays and Wednesdays each week.

If you and/or someone you know

would like to get your FCC Amateur Radio Technician license, this is your chance. Although the class is free and open to the public, it's best to sign-up beforehand to insure sufficient space and textbooks are available. For more information, you can contact Lee Hodges, KC8ITI either via email at kc8iti@arrl.net or by phone at (989) 374-0032

Midland High School Amateur Radio Club

The Advisory Board and other members of the club continue to work toward the creation of the Midland High School Amateur Radio Club, scheduled to start operation this fall. The fund raising campaign continues to move forward. The private donation fund drive seems to have slowed down and we are at about 62% of our goal. If you have been waiting to decide how much to donate, now is the time to make that decision. We need your support. We were informed by phone that the \$5,000 Dow Corning Foundation Grant has been approved. The Midland County Youth Action Council (MCYAC) grant was tabled pending survey data on student interest. Andrew Fawcett with the help of his fellow science teachers at Midland High School did a survey of the freshman,

sophomore and junior students taking sciences classes regarding their interest in the club. Of the 422 respondents, 17 students would definitely participate and another 66 students said they were highly likely to participate but needed more information. We have also received a \$1,000 donation from the Kiwassee Kiwanis foundation and \$500 from the United Steel Worker Local 12934. Our thanks go to all of our supporters. In addition, 8 other grant proposals have either been submitted or are in preparation.

The work on the planning continues for the tower and antenna installation. John, W8QN, has agreed to be the project manager for this part of the project. Denny, WD8BPT; John, W8QN and Dennis, N8ERF recently met with members of

the Midland Public Schools administration to introduce John as our project manager and to discuss more details about the project. The administration has been and continues to be very supportive of our efforts.

We have begun the huge task of developing a curriculum for the club. In other words, we are trying to figure out what exactly it is we are going to do in the club and how we are going to do it. The Advisory Board and other interested folks have been meeting at Dennis, N8ERF's home QTH on Sunday afternoons. This is a very important part of the planning process if we expect to have a quality program that is going to excite and retain the interest of the students, while giving them a positive learning experience.

***It's Not Your Grandfather's
Amateur Radio!***

The Central Middle School Amateur Radio Continues to be a riot. In the last few weeks we have had a fox hunt and a scavenger hunt. This last week, Lee, KC8ITI and Dennis, N8ERF were approached by the teacher who leads the computer club at Central and asked if we

would be interested in helping them with a project where they intend to launch a balloon carrying a Raspberry Pi with attendant sensors. We were definitely interested and have engaged other hams in the area to take advantage of the computer, direction finding and APRS skills in the club.

Please consider making a financial investment in the youth of Midland County and the future of Amateur Radio. Send checks to the Midland Amateur Radio Club, c/o MHS ARC, P.O. Box 1049, Midland, MI 48641.

73 de N8ERF

Solar Cycle 24 May Have "Double Peaks," Says NASA Solar Physicist

(ARRLWeb—03/14/2013) According to NASA, the current solar cycle – Solar Cycle 24 – should hit its “solar max” sometime in this year, but so far, solar activity has been relatively low. According to an article by NASA’s Dr Tony Phillips, this period of quiet has led some observers to wonder if forecasters missed the mark. But solar physicist Dean Pesnell of NASA’s Goddard Space Flight Center has a different explanation: “This is solar maximum. But it looks different from what we expected because it is double peaked.” Pesnell noted similarities between the current cycle and Solar Cycle 14, which happened between February 1902 and August 1913 and experienced a double peak. If the two cycles are in fact twins, he said that “it would mean one peak in late 2013 and another in 2015.”

Solar activity tends to swing back and forth: At one end of a solar cycle, there is a quiet time with few sunspots and flares, while at the other end, solar max brings high sunspot numbers and solar storms. Even so, astronomers – who have been counting sunspots for centuries – have noticed that a solar cycle is not perfectly regular, with the swing in sun-

spot counts taking anywhere from 10-13 years to complete. In addition, the amplitude of each cycle can and does vary, with some solar maxima being very weak (such as Solar Cycle 6), while others can be very strong (such as Solar Cycle 19).

“The last two solar maxima, around 1989 and 2001, had not one but two peaks,” Pesnell explained. Phillips’ article explained how “solar activity went up, dipped and then resumed, performing a mini-cycle that lasted about two years.” Pesnell said that the same thing could be happening now. Even though sunspot counts jumped in 2011 and dipped in 2012, he said he expects them to rebound again in 2013: “I am comfortable in saying that another peak will happen in 2013 and possibly last into 2014.”

According to Phillips, solar activity in the Sun’s hemispheres does not always peak at the same time. “In the current cycle, the south has been lagging behind the north,” he said. He explained that if a second peak occurs, it will likely feature the Sun’s southern hemisphere displaying a surge in activity.

Pesnell is a member of the NOAA/NASA Solar Cycle Prediction Panel, a group of solar physicists that assembled in 2006 and 2008 to forecast

the next solar max. “At that time, the Sun was experiencing its deepest minimum in nearly a hundred years,” Phillips’ article explained. “Sunspot numbers were pegged near 0 and x-ray flare activity flat-lined for months at a time.” The panel issued the following statement at the time, explaining its prediction:

“The Solar Cycle 24 Prediction Panel has reached a consensus. The panel has decided that the next solar cycle (Cycle 24) will be below average in intensity, with a maximum sunspot number of 90. Given the date of solar minimum and the predicted maximum intensity, solar maximum is now expected to occur in May 2013. Note, this is not a unanimous decision, but a supermajority of the panel did agree.”

But according to Pesnell – given the lack of solar activity in February 2013 – a maximum in May now seems unlikely. “We may be seeing what happens when you predict a single amplitude and the Sun responds with a double peak,” he said. – Thanks to NASA, Dr Tony Phillips and Science@NASA for the information

American Red Cross to Phase Out Emergency Communication Response Vehicles

(ARES E-Letter—1/20/2013) The American Red Cross has made the decision to phase out and decommission its Emergency Communication Response Vehicles (ECRVs), due to changes in technology, as well as a new satellite system and other factors regarding the vehicle fleet. “Retrofitting the decade-old vehicles with new equipment is not a good use of donated funds, as the long-term strategy is to move to more portable systems,” American Red Cross Disaster Services Technology Manager Keith Robertory, KG4UIR, told the ARRL. “This is consistent with the trends in the telecom and technology industries.”

The American Red Cross will be removing the Amateur Radios out of the ECRVs as part of the decommissioning pro-

cess. These radios will either become part of the deployable inventory or provided to the chapter to build the local capacity. Equipment that can be used by the American Red Cross will not be phased out with the vehicle. According to Robertory, every communication capability of the ECRV already exists -- or will soon -- as a rapidly deployable kit that can be loaded on any vehicle that is owned or rented by the American Red Cross, providing more flexibility in shaping its response to match the disaster.

“From a radio perspective, the American Red Cross has a variety of different kits for amateur, business and public safety bands covering HF, VHF and UHF with portable radios, mobile units and base stations,” he explained. “Two-way radio re-

mains a valuable tool, providing communications in the initial days or weeks of a disaster, until normal communications is restored. Each American Red Cross chapter should continue with -- and improve -- the relationship with their local Amateur Radio operators. In a disaster, Amateur Radio will be the fastest deployed radio network because operators already live in the impacted communities.”

Robertory called the ECRV operators “the key to the success of the ECRV program through the years. Their skills, dedication and flexibility have made the ECRV one of the most visible aspects of the American Red Cross Disaster Technology team. The ability to establish connectivity and communications remains vital to the American Red

Explore the World with Amateur Radio!

Cross, and their skills will continue to be needed as the American Red Cross implements new technology strategy and tactics. The commitment and flexibility of technologists -- including radio operators -- is what makes technology on a disaster successful. Building our future path based on the lessons we have learned is important to keep us all

successful."

"This should not be seen as a setback for those radio amateurs who are working with the American Red Cross," said ARRL Emergency Preparedness Manager Mike Corey, K1IU. "In disaster response, adaptability is critical and keeping up with new technology is essential. This all must be

done with a mind toward an effective and efficient response. Amateurs have played an important role in assisting the American Red Cross with their mission and I know we will continue to do so in the future."

Information about how to purchase these vehicles will be shared at a later date when the details are firm.

Technical Topics and Information

(ARRL Contest Update—February 27, 2013) Dan AC6LA has released *AutoEZ*, a new Excel application that works in conjunction with the *EZNEC* antenna modeling program. You can use *AutoEZ* to control diverse aspects of the model and then run multiple *EZNEC* test cases while automatically changing one or more variables between runs. *AutoEZ* can take full advantage of all the features new to *EZNEC* v. 5.0 such as virtual wires, realistic transmission lines with loss, transformers, L networks (which can be combined to form T and Pi networks), and parallel connected loads. The website includes numerous examples of how this powerful tool can be used for antenna system problems, such as designing antenna tuners, stubs, and transmission lines. <ac6la.com/autoez.html>

• As a means of demonstrating the effects of height above ground, Al AB2ZY recommends the charts and figures that accompany this article as being very useful in visualizing what happens as a dipole is raised and lowered.

<<http://www.qsl.net/aa3rl/ant2.html>>

• If you are troubleshooting an amplifier's output circuit, turn off the power and be sure to ground the HV lines, then remove the tube and replace it with a non-inductive resistor of the same plate impedance as the tube from anode to ground. With all power still off, connect a network analyzer or antenna analyzer to the output connector. Tune up the output circuit and see if you can get a good match. If not, you have a problem in the output circuit! (Thanks, Mike G8TIC)

• Safety first! Here's a nifty way to put a lockout on the power cord of an appliance or tool so that no one plugs it in while you're working on it. The February 26th issue of the *Make Magazine Newsletter* also notes that those dessicant packets shipped with electronics and other items to keep them dry will also keep your tools dry. Save the packets and drop them in tool box or other tool holder! <<http://gdkonstantine.wordpress.com/2013/01/17/project-lockout/>>

• Steve N2IC warns of a potential problem for SO2R operators. While sending alternating CQs on 15 and 10

meters, he "Noticed that people calling in on 10 sounded choppy. Turned out to be 15 meter RF coming back into the 10 meter radio through the unprotected RX antenna port. I have had that happen on other band combinations in other contests." This tip applies whenever a receiver input port without filtering is connected to an antenna when a nearby transmitter is active.

Technical Web Site of the Week—The on-line series from *Electronic Design* magazine, *Impedance Matching - Parts 1-3*, by W5LEF makes a good introduction and overview of the topic.

<<http://electronicdesign.com/learning-resources/ebooks>>

Operating Tip—Reviewing one's log checking report is a good way to learn how to get better. Valery R5GA just added another - the reverse log generator. Currently based on the public logs from the 2012 CQ WW DX CW contest, you can enter any call sign - yours, someone else's, or even a busted call - and create a time-ordered list of everyone who worked that station. i.e. - a reverse log! <<http://rate.pileup.ru/vlog.php>>

More Technical Topics and Information

(ARRL Contest Update—March 13, 2013) HFTA author Dean Straw N6BV writes to let us know, "Sometime in the last few month USGS has greatly changed their NED "Seamless" data site, requiring the instructions for finding and downloading terrain data to be re-written in HFTA.pdf. The new data site is called the "National Map." Dean has updated the instructions for HFTA in a new PDF file available for download at in the Supplemental Information and Tools area of the ARRL Antenna Book website.

• Tom KD8DEG, an experienced

cable-puller, suggests that when pulling multiple cables through conduit, stagger the leading ends of the cables by five to seven inches. That avoids trying to get all of the cable ends through a sweep (use sweeps and not elbows) at once. For lubrication, he endorses the Polywater line of products, leaving no residue and widely carried by electrical supply houses. And Gene AD3F reminds us to "Leave a pulling rope inside the conduit for (inevitable) future installs. You can install this rope along with the last coax pull."

• Looking for cheap LEDs? You can "repurpose" the strings of solid and mixed color of LEDs available for a few dollars from department stores. Depending on the manufacturer, they may have from 50-100 LEDs. (Thanks, Kurt KD7JYK)

• Speaking of LEDs, here's a great lighting ring design to help you see clearly on the workbench when using a drill or grinding tool. <<http://www.instructables.com/id/Make-your-own-LED-ring-for-dremel/>>

• Whither Cycle 24? It's the cycle

that just doesn't seem like it will ever get into high gear. NASA weighs in with the story "A Quiet Interlude in Solar Max" on the interesting Earth Observatory website. <
<http://earthobservatory.nasa.gov/IOTD/view.php?id=80572>>

• Much is made of technical literacy - here's an example of a web site promoting software literacy for kids growing up in a largely software-driven world. I can think of other examples of critical technologies that are little understood but on which a great deal of modern life depends - such as electricity and wireless technologies.<www.code.org> (Thanks, Jim K9JF)

• If you've ever worked with a crane, it's critical to have an accurate distance measurement from where the crane will set up to where the load is going. In the past you'd have to climb roofs or sometimes estimate blind distances and

hope your estimate is a good one. Due to the amazing abilities of smartphones, Steve K7LXC reports that the days of guesstimates are over. His crane operator used an Android app called *Map Ruler* to quickly get an accurate distance between a tower base and the crane location. It works for all kinds of site planning or measurement. These are examples of what is known as a "theodolite app" - some use a camera shot and some require sighting along an edge of the phone. They're not a replacement for the more accurate surveying equipment but for most amateur uses, they offer plenty of precision. (Thanks also to Jim W6RMK)

• More on satellites, Mike DK3WN has produced a summary of all active amateur radio satellites with frequencies and links to more detailed information. <http://www.dk3wn.info/p/?page_id=29535> (From AMSAT bulletin ANS-069)

Technical Web Site of the Week—Watt's In a Name? Some time

ago, Roy W7EL published an insightful perspective on "RMS Power" on his website. Hint, this term doesn't have much meaning although it is widely used. <

http://www.eznec.com/Amateur/RMS_Power.pdf> (Thanks, Paul W9AC)

Operating Tip—Be prepared - run through a station checklist well before the contest, including for the operator! Then be ready for problems during the contest because Murphy is never far away. Multi-operator station hosts know this well - sometimes there are repairs that have to be done during the race! K3LR had ring rotators freeze up with icing during ARRL DX Phone - the rotators were freed with torches on the tower at midnight - three times during the weekend, in fact! Every big station host deserves a tip of the contesters' cap in recognition of and appreciation for what keeps those state-of-the-art signals sounding so superb.

MARC Vital Statistics

K6VWE

Memberships Expiring in March

KB8SOE

KD8HID

Memberships Expiring in April

KB8PGW
N8LBF

WB8FYR
WD8ODG

Memberships Expiring in May

KD8QAM

Current Active Club Membership 60

Birthdays Celebrated in March/April

KD8TCH 3/4
KB8VSU 3/9
NQ8T 3/15
KC8RTU 3/16
KC8RTW 3/17
K8VB 3/19
KC8FDM 3/26
WD8OEU 3/27

W8QN 3/31
KC8TQS 4/9
KC8SRT 4/11
KB8TBI 4/14
KD8CUX 4/17
N8KFE 4/18
W8AWS 4/19
KC8IHB 4/19

KD8OLC 4/20
WA8LQD 4/27
KD8HIC 4/27
KA8EZT 4/28
KD8MQX 4/28
W8CVZ 4/28
N8JBW 4/30

Anniversaries Celebrated in March/April

K8RRB and ???? 3/4
KC8ITI and KC8MUD 3/6

WD8BPT and Melody 3/13
WD8OEU and Grace 4/17

Information is from data received 2/25/2013

Any corrections or questions contact John, W8QN

Amateur Radio. . . We Do That!



Pat Mullet
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Shepherd, MI 48883

If you desire to join the Midland Amateur Radio Club, the dues are \$20 per year for an individual membership. A family membership is available for an additional \$5 per year which covers all of the individual's family members. Family members must reside at the same address as the primary member to be eligible for the family member rate. The membership dues help to cover the operating expenses of the Club, and its radio systems. Membership includes Autopatch privileges on the W8KEA repeater (147.000+), voting privileges at MARC meetings, and a monthly newsletter. Please supply the following information:

Name: _____ Callsign: _____ License Class _____
Address _____
City _____ State _____ Zip _____
Home Phone (____) _____ Work Phone (____) _____
E-mail address _____
Spouse: _____ Callsign: _____ License Class _____
Birthday: (mm/dd) _____ Anniversary: (mm/dd) _____
Desired newsletter format: Paper copy via USPS _____ or via e-mail _____

Are you an ARRL Member? Y/N Do you want an ARES Application? Y/N

We request this information so we can communicate with you regarding MARC business, and periodically send you newsletters and congratulatory birthday & anniversary greetings. We do not sell this information nor will we knowingly publicize private information without your permission. Information that is publicly available may be distributed to Club members for various purposes, including membership lists, without prior notification.

You may give this completed form to the MARC treasurer, or you may mail it to:

MARC, PO Box 1049, Midland, MI 48641-1049